REMARKS

Claims 1-22 are pending in the application. Claims 2, 7, 11, 13, 18, and 22 have been cancelled. Claims 1, 3-6, 8-10, 12, 14-17, and 19-21 have been amended herein. Favorable reconsideration of the application, as amended, is respectfully requested.

I. Claim Objections

Claims 4, 12, and 19 are objected to for various informalities. Claims 4, 12, and 19 have been amended to correct the informalities.

II. Double Patenting

At least one claim is provisionally rejected on the ground of non-statutory obviousness-type double patenting over claims in co-pending Application 10/077,510. A terminal disclaimer is included herewith to overcome the provisional rejection.

III. REJECTION OF CLAIMS UNDER 35 USC § 102

Claims 1-7 and 12-18 are rejected under 35 USC 102(e) based on being anticipated by US Patent 6,360,265 to Falck et al. Claims 2, 7, 13, and 18 have been cancelled. Claims 1, 3-6, 12, and 14-17 have been amended herein.

Claim 1

Applicants invention, as set forth in amended claim 1, is directed to a method of operating a telephony service provider system (34) for providing a media session channel for communication of real time streaming media data from a remote caller client (16) to a callee client (18) served by an address translation firewall (28).

The method comprises receiving a ping datagram. The ping datagram is originated by the callee client, is addressed to the telephony service provider

system, and has its source network address and source port number translated by the address translation firewall. The ping datagram further includes identification of the callee client. A translated source network address and a translated source port number are extracted from the ping datagram to identify an open signaling channel to the callee client from the telephone service provider system that can be reverse translated by the address translation firewall. (See P11, L15 to P 12, L3).

A session signaling message is initiated by a remote caller client and received by the telephony service provider system (Signal 60, Figure 2a, Step 150, Figure 5b). The session signaling message identifies the callee client and identifies a caller network address and a caller port number. The caller network address and the caller port number are established by the remote caller client for receipt of media session datagrams. (P13, L10-L13, P18, L1-L7)

A designated network address and a designated port number are determined. The designated network address and designated port number are the network address and port number to which the callee client is to send media session datagrams. The designated network address and the designated port number being: i) the caller network address and the caller port number if the caller network address as identified in the session signaling message matches an extracted source address extracted from the session signaling message (P18, L12-L17); and ii) a relay server network address and a relay server port number if the caller network address as identified in the session signaling message is different than the extracted source address extracted from the session signaling message (P18, L18-L25).

A client session signaling message is sent to the callee client on the open signaling channel by utilizing the translated source network address and translated source port number (Figure 5b, Step 154, Step 160, Figure 2b Signal Step 66). The client session signaling message is sent in response to receipt of the session signaling message from the remote caller client. The client session signaling message includes identification of the designated network address and designated port number.

Falck et al.

US Patent 6,360,265 to Falck et al. teaches a specialized NAT device (reference number 106) that operates in place of a traditional NAT server. The NAT device of Falck et al. intercouples between the Internet and the local area network and performs network address translation (NAT) functions of IP layer translation between frames address on the local area network and frames address on the Internet.

The specialized NAT does not translate and reverse translate telephony signaling message in a traditional manner. Instead (with respect to an inbound telephony signaling message), at step 420 the specialized NAT recognizes that the message is to a well known port and applies specialized rules for routing the inbound message to one of a plurality of servers (on the private network) that is able to handle the service request (see discussion C5, L55-C6, L17). Step 430 represents one of the specialized rules which includes the NAT substituting its own IP address.

By operating as a specialized NAT, frames exchanged between the system of Falck et al. and the client are addressed directly to each other on the local area network and: i) no translation of source IP address and source port number is performed on frames sent by the client to the specialized NAT by any intermediary device; and ii) no reverse translation is performed on frames sent by the specialized NAT to the client is performed by any intermediary device.

More specifically, in Falck et al., all communication is between: i) the Terminal 105 (the device outside the NAT in Falck et al.) and the specialized NAT; or ii) between the server 110, 112, 114 (the device inside the NAT of Falck et al. and the specialized NAT 106 are performed without source address translation, source port translation, and extraction of a source address and source port number for identifying a communication path inbound through a traditional NAT.

Falck et al. does not teach a telephony service system or a directory server extracting a source IP address and port number from message identify an open

channel through the NAT that can be reverse translated by the NAT serving the client. Instead, Falck et al. teaches providing identification of a media channel (e.g. provides identification of the IP address of the specialized NAT and a port number) to the Terminal 102. This eliminates need for extraction of an IP address and port number for identifying an open channel.

As such, the specialized NAT of Falck et al. does not perform inbound translation in the traditional NAT manner of looking up an outbound message to which the inbound message is a reply. Instead, inbound translation performed by Falck et al. is in accordance with the specialized translation rule (Figure 5) for a non-well-known port (e.g. the port number is not translated and the local destination IP address is determined based on the range within which the destination port exists).

Further, because the specialized NAT of Falck et al. that operates in place of a traditional NAT server, all communication of media datagrams is through the specialized NAT of Falck et al. Falk et al. does not teach determining a designated network address and the designated port number wherein the designated network address and designated port number are:

the caller network address and the caller port number if the caller network address as identified in the session signaling message matches an extracted remote device source address extracted from the session signaling message; and

a relay server network address and a relay server port number if the caller network address as identified in the session signaling message is different than the extracted remote device source address extracted from the session signaling message.

Claim 4

Applicants invention, as set forth in amended claim 4, is a method of operating a telephony service provider system (34) for facilitating the sending a call signaling message to a callee client (18) independent of whether the callee client

(18) is served by an address translation firewall.

The method comprises receiving a registration message. The registration message is originated by the callee client (18), addressed to the directory server (38), and includes identification of the callee client (18) and a network address of the callee client (18).

A source network address and a source port number are extracted from the registration message and the extracted source network address is compared to the network address of the client identified in the registration message to the source network address.

A directory inquiry (Signal 60 of Figure 2a) is received from a remote caller client (16) device. The directory inquiry message identifies the callee client (18).

The directory server (38) provides a directory inquiry response message (Signal 74 of Figure 2a) back to the remote caller client (16). The directory inquiry response message includes a signaling address, the signaling address being: i) the network address identified in the registration message if the network address and the source network address are the same network address; and ii) a directory server network address if the network address and the source network address are not the same, the directory server network address being a network address of the telephony service system.

As discussed with respect to Claim 1, by operating as a specialized NAT, frames exchanged between the system of Falck et al. and the client are addressed directly to each other on the local area network and: i) no translation of source IP address and source port number is performed on frames sent by the client to the specialized NAT by any intermediary device; and ii) no reverse translation is performed on frames sent by the specialized NAT to the client is performed by any intermediary device.

Claim 12

Applicants invention, as set forth in amended claim 12, is a directory server (38) for providing a media session channel for communication of real time

streaming media data from a remote caller client (16) to a callee client (18) served by an address translation firewall (28).

The directory server (38) operates in accordance with the method discussed with respect to Claim 1. Therefore, claim 12 can be distinguished over Falck et al. and the other art of record for at least the same reasons.

Claim 15

Applicants invention, as set forth in amended claim 15, is a directory server (38) for facilitating the sending of a call signaling message to a client independent of whether the callee client is served by an address translation firewall

The directory server (38) operates in accordance with the method discussed with respect to Claim 4. Therefore, claim 15 can be distinguish over Falck et al. and the other art of record for at least the same reasons.

Claims 3, 5-6, 14, and 16-17.

The dependent claims, including claims 3, 5-6, 14, and 16-17 each depend from one of the independent claims 1, 4, 12, or 15 and can be distinguished over Falck et al. and the other art of record for at least the same reasons.

IV. REJECTION OF CLAIMS UNDER 35 USC § 103

Claims 8-11 and 19-22 stand rejected under 35 USC 103(a) as being unpatentable over US Patent 6,360,265 to Falck et al. in view of US Patent 6,522,880 to Verma. Claims 11 and 22 have been canceled. Claims 8-10 and 19-21 have been amended herein.

Further, claims 8-10 and 19-21 each depend from one of the independent claims 1, 4, 12, or 15 and can be distinguished over Falck et al., Verma, and the other art of record for at least the same reasons.

General Discussion of other art

Phomsopha (Included in IDS)

US Published Application 2003/0048780 to Phomsopha teaches source IP address and port extraction to identify a reverse channel through a NAT firewall for a media session. In more detail, the device behind the firewall opens a traditional TCP/IP connection through the NAT firewall to an Internet server, obtains through the TCP/IP session a port number assigned by the Internet Server for the media session, and sends a UDP "priming packet" to the Server. The Server extracts the source IP address and port number from the priming packet to identify the reverse channel through the NAT.

The system taught by Phomsopha requires that the client have sufficient information to establish the initial TCP/IP connection to the Server to which the UDP media session is to be established. This enables the Server to identify its assigned port for the UDP session.

Phomsopha does not address how the client identifies the Server to which the UDP media session is to be established. The system of the applicant's invention addresses the unresolved problem of Phomsopha. The directory server of the applicant's invention performs unique steps for identifying, to the caller client, the IP address and port number assigned by the call control manager (The real time protocol channel) to which the caller client is to initiate the UDP media session.

Kennedy (Included in IDS)

US Published Application 2004/0252683 to Kennedy teaches source IP address and port extraction. Kennedy teaches a system and method where the device behind a NAT (e.g. Client B for example) periodically sends frames to an application server 105. The application server extracts the IP address and port number to identify a channel for exchanging control messages with Client B.

When a media session is to be set up between Client B and another device (Client A for example), Client B sends a special message to a port number of the application server 105. The Application server 105 extracts the IP address and port number to identify an inbound channel to Client B. The application server 105 provides this extracted IP address and port number to Client A (through the control message channel with Client A).

It is then assumed that Client A can send data to Client B on such extracted channel. However, it must be noted that the teachings of Kennedy **WILL NOT WORK** in a situation wherein the NAT will reverse translate an inbound frame that is not a true "response frame" – meaning that the inbound frame (from client A) does not include the same source IP address and port number as destination IP address and port number (e.g. the application server 105) to which the special message was originally sent.

The applicants invention, on the other hand, teaches a unique system and method for identifying, to the caller client behind the NAT, the IP address and port number of the call control manager so that the caller client may initiate UDP frames of the media session the call control manager and the call control manager itself can perform the IP address and port extraction to identify a true reverse channel through the NAT to the caller client.

V. CONCLUSION

Accordingly, Claims 1, 3-6, 9-10, 12, 14-17, and 20-21 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an

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additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 501825.

Respectfully submitted,

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